•			•′			1641	1802
ımb r	CRF 68/876,	ors Corrected	by th	STIC Syste	CRF Proce	h ssing Date:	9/9/9
	d a file from non-/	ASCII to ASCII			Edited by: Verified by:		T STECT
Change	d the margins in c	ases where the sequ	ence te	xt was "wrapp	ed" down to ti	he next line.	
Edited a	format error in th	e Current Application	n Data s	ection, specific	allyEN-	ΓERI	APR ECHCEN
		ntion Data section with application data; or			ımber. The n	umber input —	
Added ti	ne mandatory hea	ding and subheading	gs for "C	Current Applica	ion Data".		
Edited th	ne "Number of Sec	quences" field. The	applican	nt spelled out a	number inste	ad of using	an integer.
Change	d the spelling of a	mandatory field (the	heading	gs or subheadi	ngs), specific	ally:	
Correcte	d the SEQ ID NO	when obviously inco	orrect. T	The sequence r	numbers that	were edited	were:
nserted	or corrected a nuc	cleic number at the e	end of a	nucleic line.	SEQ ID NO's	edited:	
	•						
applican	placed a respons	cement. All response below the subhea	ding, thi	s was moved t	o its appropri		g. If the
ipplican	placed a respons	•	ding, thi	s was moved t	o its appropri		g. If the
applicant	colons after heac	se below the subhea	ding, thi	s was moved to	o its appropri		g. If the
Inserted Deleted Deleted	extra, invalid, hea	se below the subheadings. I	Heading pplicant,	s was moved to	ed:	ate place.	at end of fi
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^{*}Examin r: Th abov corrections must b communicated to th applicant in th first Offic Action. DO NOT send a copy of this form.

3/1/95

RAW SEQUENCE LISTING PATENT APPLICATION US/08/876,132

DAT**ECHOEMYS** 1600/2900 TIME: 10:17:14

INPUT SET: S28494.raw

This Raw Listing contains the General Information Section and up to the first 5 pages.

1		SEQUENCE LISTING ENTERED
2	(1)	
3 4	(1)	General Information
5		(i) APPLICANT: Fowler, Timothy
6		Stuart, Causey
7		Studit, Causey
8		(ii) TITLE OF THE INVENTION: ENTEROBACTERIACEAE FERMENTATION
9		STAINS
10		OTALIO
11		(iii) NUMBER OF SEQUENCES: 3
12		(111) None of Pagarious o
13		(iv) CORRESPONDENCE ADDRESS:
14		(A) ADDRESSEE: Genencor International, Inc.
15		(B) STREET: 925 Page Mill Road
16		(C) CITY: Palo Alto
17		(D) STATE: CA
18		(E) COUNTRY: US
19		(F) ZIP: 94304-1013
20		(-, :
21		(v) COMPUTER READABLE FORM:
22		(A) MEDIUM TYPE: Diskette
23		(B) COMPUTER: IBM Compatible
24		(C) OPERATING SYSTEM: DOS
25		(D) SOFTWARE: FastSEQ for Windows Version 2.0
26		
27		(vi) CURRENT APPLICATION DATA:
28		(A) APPLICATION NUMBER: 08/876,132
29		(B) FILING DATE: 23-JUN-1997
30		
31		(vii) PRIOR APPLICATION DATA:
32		(A) APPLICATION NUMBER:
33		(B) FILING DATE:
34		
35		(viii) ATTORNEY/AGENT INFORMATION:
36		(A) NAME: Glaister, Debra J.
37		(B) REGISTRATION NUMBER: 33,888
38		(C) REFERENCE/DOCKET NUMBER: GC372
39		
40		(ix) TELECOMMUNICATION INFORMATION:
41		(A) TELEPHONE: 650-846-7620
42		(B) TELEFAX: 650-845-6504
43		
44		
45		(2) INFORMATION FOR SEQ ID NO:1:
46		

RAW SEQUENCE LISTING PATENT APPLICATION US/08/876,132

TIME: 10:17:15

DATE: 09/16/98

INPUT SET: S28494.raw

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48
             (B) TYPE: nucleic acid
49
             (C) STRANDEDNESS: single
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             (D) TOPOLOGY: linear
51
52
           (xi) SEQUENCE DESCRIPTION: SEQ ID NO:1:
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54
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86
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             (B) TYPE: nucleic acid
             (C) STRANDEDNESS: single
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             (D) TOPOLOGY: linear
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91
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TECH CENTER 100

DATE: 09/16/98

PAGE: 3

RAW SEQUENCE LISTING PATENT APPLICATION US/08/876,132

TIME: 10:17:17 INPUT SET: S28494.raw GTCTTGTAAT CAAGTTGGTC AGAACTCGAT TACGATTTGT AAGTAGAAAT CTAACTCACA TTTCGCAGAA AGTCAAACTT ACCTCTTAGT TACAACTCAA AAATTTCCTA GCCTTTTCAG ATCCTTAAGC ATACATATTT TGTTTAAACC GATTGTGTCC GGTGTTTGGT GTGGAGCCAT TGATCCGAGT GGTCAATATG TGATTGTTCG CCAAACAGTG TATGTAGGTC TAAACGGGGA GTGCTACAAA AGACCATACC CGAAACGAGT GCCTAAGTGT TTTGGTTATC AACCAGGTAA GCTATGAGAA AGCCCAGCCA TAAATGGGGT TAGGTTGAAG CAAGTCTTCA TATGGTGCGA CACAAGGGT GTAGTAGGT GTCGTCAAAC TGAAAGGTTT GATAGCTCTA AGCTTGTGCT TCTGTGGGTC AAGCCTCAAG TGCTGATCTG TGGTGTCGTC TACCTGATAA CTTTCACTTT 7.80 TTCGAGTGAA ATTCAGGAGG CGAAACTATG GGTCAAGCCC AGCTTTGCTG GGGTTCGGCA CATCCAGCTT ACAGCATTGG TGCTCTTGCG AAGCTGAAGC ACAAAAATCT AATCCAGGGT TTGGGTTTTT TATACCAGAA GCAAAACAAA AAAATAAAAC AAAGAAAAAT TTTCGAGCGA AAAAATATTT TGGAATTTTT TAAAGGCGAT ACTTGCTACC GCACTTTTGC CATATTTAAA ACCTGACTAT CTTTATAAGT TAATAGATAT ATCCGTTAGA TTATAAAGTA TGTTAAAAAC GAGTAAAAAC AATAACTTAT ATATTTAATT CTGAATTATA TTTGACAGTG ATTATTTAAT ATATTAAGAG ATATATCTAT TAGCTTAAAT ATAACTAAAA AAAGAGGTAA ATATATGGAT TGTGTATTTA AAAAAGCATT AGAAAATGAA ATAGAACATT ATAAAAAAGA CGGTGATATC AAATCTTTCT TACAATACTT GCATTACTTT GATATAGATA AAGCATTAAA TGGTGATGAA TGTGGCGATA TTATAAACTC AAATTTATCC ATTGATGAAA GTTTTGATCT TCTTGATGTT GAGCACAATT TCGGCTGGGC TTTCAATAAA ATAATACAGA GACGAAATGA ATATTTATCA TCAGCTAAAA CTGAAAATGA TTTTAAAAAA TACTCGTTCT TTATTCATTC GATCAATTGG GAAGAATTTA ATTACGATGA GATGAGTACA ATACATCAAG AAATGATTAA AGGATTAGAT AATTACACAT ATGGAGAAAT AACCATATGA ATAATAAAAT AAGAGAATAT ATTGATTTCG AAATAACAAA AGATATAAAA GAAAGTCAGC TCTTAAAAAT ATCTGCATTG ATCGATGTTT TAAAAGTAGA TGAAAAATTT ATTGATGAAG AGGATTTGCA ACTAAAGATA TTGAAAATAT CGTATGAAAA TCCTATTGAT GATCCAGATG ATGGCATAAG AAAATCACAA TTCGCACGAA GAAATGCCTA TGCTTTCCGC ATTAAAAAAA CAAGCAAAAA GAGATCT (2) INFORMATION FOR SEQ ID NO:3: (i) SEQUENCE CHARACTERISTICS: (A) LENGTH: 371 amino acids (B) TYPE: amino acid (C) STRANDEDNESS: single (D) TOPOLOGY: linear (xi) SEQUENCE DESCRIPTION: SEQ ID NO:3: Asn Phe Leu His Trp Lys Phe Glu Lys Ile Arg Gln Lys Lys Leu Lys Trp Lys Lys Tyr Tyr Tyr Lys Lys Arg Arg Ser Asp Met Asp Phe Lys Ser Arg Lys Leu Thr Leu Asn Glu Lys Lys Asp Leu Glu Lys Ile Tyr Ala Glu Ser Glu Leu Lys Ala Lys Lys Leu Gly Thr Gln Pro Gly Val Val Leu Glu Met Thr Met Lys Glu Met Met Lys Asn Ile Asn Leu Asp

Val Asn Glu Glu Thr Ala Gly Gln Tyr Arg Lys Leu Phe Lys Asn Lys

RAW SEQUENCE LISTING PATENT APPLICATION US/08/876,132

INPUT SET: S28494.raw

DATE: 09/16/98 TIME: 10:17:19

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159	_		115				_	120		•			125	_		
160																
161	Ile	Cys	Glu	Arg	Ile	Gln	Gln	Leu	Arg	Lys	Glu	Ala	Asp	Asn	Ala	Arg
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165	145					150					155					160
166																
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172		_												_		_
173	Lys	Thr		Lys	GLu	Ala	Asp		Met	Asp	Asp	Ile		Lys	Arg	Leu
174			195					200					205			
175	•	•	•	-	~	m1		•	•			~1	Dl	.	~	+1 -
176	Lys		Asn	гàг	Ser	Thr	_	Asp	arg	Tyr	ата	_	Pne	Leu	Ser	Ile
177		210					215					220				
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179	225	ser	тте	Thr	GIA	230	Arg	Pro	ATS	GIU	235	Leu	гаг	сту	тте	Glu 240
180 181	225					230					233					240
182	Tla	Val	λνα	λen	λτα	Птт	alu.	λen	Gl v	т1ь	Sor	Dho	T tre	ם דו	LAII	Gly
183	116	Val	Arg	ASII	245	ıyı	GIG	ASP	СТУ	250	Ser	FILE	цуз	116	255	GLY
184	Δla	T.vs	Val	G] v		Asp	Δra	Glv	Gln		Glu	Ara	Thr	Leu		Phe
185	n_u	_,_	• • • •	260	21011		9	023	265					270		
186																
187	Asp	Leu	Ser	Lvs	Tvr	His	Asp	Asn	Glu	Gln	Met	Asn	Tvr	Ile	Leu	Ser
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195																
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198			_		_	_	-							_		
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205	ASN	Trp	Cys													

RAW SEQUENCE LISTING PATENT APPLICATION US/08/876,132

DATE: 09/16/98 TIME: 10:17:20

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206 370 207

208

209

SEQUENCE VERIFICATION REPORT PATENT APPLICATION *US/08/876,132*

DATE: 09/16/98 TIME: 10:17:20

INPUT SET: S28494.raw

Line

Error

Original Text

RAW SEQUENCE LISTING PATENT APPLICATION US/08/876,132

DATE: 09/09/98 TIME: 15:03:05

INPUT SET: S28494.raw

This Raw Listing contains the General Information Section and up to the first 5 pages.

1		SEQUENCE LISTING	
2 3 4	(1)	General Information Does	s Not Comply d Diskette Needed
5 6		(i) APPLICANT: Fowler, Timothy Stuart, Causey) Distrome
7 8 9		(ii) TITLE OF THE INVENTION: ENTEROBACTERIACEAE FERN	ENTATION
10 11 12		(iii) NUMBER OF SEQUENCES: 3	
13		(iv) CORRESPONDENCE ADDRESS:	
14		(A) ADDRESSEE: Genencor International, Inc.	
15		(B) STREET: 925 Page Mill Road	
16		(C) CITY: Palo Alto	
17		(D) STATE: CA	
18		(E) COUNTRY: US	
19		(F) ZIP: 94304-1013	
20			
21		(v) COMPUTER READABLE FORM:	
22		(A) MEDIUM TYPE: Diskette	
23		(B) COMPUTER: IBM Compatible	
24		(C) OPERATING SYSTEM: DOS	
25		(D) SOFTWARE: FastSEQ for Windows Version 2.0	
26	**		
27		(vi) CURRENT APPLICATION DATA:	
28		(A) APPLICATION NUMBER: 08/876,132	
29		(B) FILING DATE: 23-JUN-1997	
30		, ,	
31		(vii) PRIOR APPLICATION DATA:	
32		(A) APPLICATION NUMBER:	
33		(B) FILING DATE:	
34		(-,	
35		(viii) ATTORNEY/AGENT INFORMATION:	
36		(A) NAME: Glaister, Debra J.	
37		(B) REGISTRATION NUMBER: 33,888	
38		(C) REFERENCE/DOCKET NUMBER: GC372	
39		(*, , ==================================	
40		(ix) TELECOMMUNICATION INFORMATION:	
41		(A) TELEPHONE: 650-846-7620	
42		(B) TELEFAX: 650-845-6504	
43		(5) IDDI: 000 010 000I	
44			
45		(2) INFORMATION FOR SEQ ID NO:1:	
46		(2) INFORMATION FOR SEQ ID NO.1.	

RAW SEQUENCE LISTING PATENT APPLICATION US/08/876,132

TIME: 15:03:05

DATE: 09/09/98

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49
             (B) TYPE: nucleic acid
             (C) STRANDEDNESS: single
50
             (D) TOPOLOGY: linear
51
52
            (xi) SEQUENCE DESCRIPTION: SEQ ID NO:1:
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                                                                           1660
83
84
               (2) INFORMATION FOR SEQ ID NO:2:
85
86
           (i) SEQUENCE CHARACTERISTICS:
             (A) LENGTH: 1847 base pairs
87
88
              (B) TYPE: nucleic acid
             (C) STRANDEDNESS: single
89
90
             (D) TOPOLOGY: linear
91
92
93
           (xi) SEQUENCE DESCRIPTION: SEQ ID NO:2:
94
95
     AGATCTCAAC CAGTTTAAAA TCGCACTTCA AGAAGTAAAA ATAGGGGCCG GCACCGGCTC
                                                                             60
     TTTTTTTGGT GTTTTTGTAG TTAGTGGATA TATCTGTTAG CTACAGAGAA AAGCGATTTT
96
                                                                            120
     AGAGGGTTTG ACGAGGTTTT TTCGAGCTAT CCAGGGTTTT TGGGTTTTTG GGGTTGGATC
97
                                                                            180
98
     AGAAAAGTCG TTCAAGATTA TTGACATAAA GACAGGAAGG TTTATAACAA GTACCAGATA
99
     CGACAAAACC AGCTTTGCAG GCTGGCTTTG AAGGACTAAA AGAAGTGGGG ACTTCTTTGA
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152

RAW SEQUENCE LISTING PATENT APPLICATION US/08/876,132

76,132 DATE: 09/09/98 TIME: 15:03:06

														IN.	PUT S	ET: S2	8494.	raw
100	GTC.	rtgt	TAA	CAAG'	rtgg:	C A	GAAC'	rcga?	AT 1	CGAT'	TTGT	AAG'	TAGA.	AAT	CTAA	CTCAC	A	360
101	TTT(CGCA	JAA	AGTC	AAAC	T A	CCTC'	rtag:	AT 7	CAAC	TCAA	AAA'	TTTC	CTA	GCCT'	TTTCA	3	420
102	ATC	CTTA	AGC	ATAC	ATAT	T T	GTTT.	AAAC	GA'	TTGT	GTCC	GGT	GTTT	GGT	GTGG	AGCCA!	r	480
103	TGA:	rccg	AGT	GGTC	AATAI	rg T	GATT	GTTC	CC.	AAAC	AGTG	TAT	GTAG	GTC	TAAA	CGGGG	A	540
104	GTG	CTAC	AAA	AGAC	CATAC	CC C	GAAA	CGAGT	r GC	CTAA	GTGT	TTT	GGTT.	ATC	AACC	AGGTA	A	600
105	GCT	ATGA	GAA	AGCC	CAGC	CA T	AAAT	GGGG1	TA T	GGTT	GAAG	CAA	GTCT'	TCA	TATG	GTGCG	A	660
106	CAC	AAGG	GT	GTAG'	ragg(T G	TCGT	CAAAC	TG	AAAG	GTTT	GAT	AGCT	CTA	AGCT'	rgrgc:	Г	720
107	TCT	GTGG(GTC	AAGC	CTCA	AG T	GCTG	ATCT	TG(GTGT(CGTC	TAC	CTGA'	TAA	CTTT	CACTT	r	780
108	TTC	SAGT	GAA	ATTC	AGGA	G C	GAAA	CTATO	GG'	TCAA	GCCC	AGC'	rrtg(CTG	GGGT	rcggc	A	840
109	CATO	CCAG	CTT	ACAG	CATTO	G T	GCTC'	rtgc	AA E	GCTG	AAGC	ACA	AAAA'	TCT	AATC	CAGGG	r	900
110	TTG	GTT'	ГТT	TATA	CCAG	AA G	CAAA	ACAA!	AA.	AATA	AAAC	AAA	GAAA	AAT	TTTC	GAGCG	A	960
111	AAA	'ATA	rtt	TGGA	ATTTT	T T	AAAG	GCGA'	r Ac'	TTGC'	TACC	GCA	CTTT'	TGC	CATA	TTTAA	A	1020
112	ACC	rgac'	TAT	CTTT	ATAAC	T T	AATA	GATAT	TA T	CCGT'	TAGA	TTA	TAAA	GTA	TGTT	AAAAA	2	1080
113	GAG	raaa:	AAC	AATA	ACTT!	AT A'	TATT	TAAT	CT	GAAT'	TATA	TTT	GACA	GTG	ATTA	TTTAA!	r	1140
114	ATA	TAA(GAG	ATAT	ATCT	AT T	AGCT'	TAAAT	TA T	AACT	AAAA	AAA	GAGG'	TAA	ATAT	ATGGA	r	1200
115	TGT	TAT	ГТА	AAAA	AGCAT	T A	GAAA	ATGA!	ATA	AGAA	CATT	ATA	AAAA	AGA	CGGT	GATAT	2	1260
116	AAA	rctt'	ГСТ	TACA	ATACT	rt G	CATT	ACTT	r GA'	TATA	GATA	AAG	CATT	AAA	TGGT	GATGA	A	1320
117	TGT	GCG/	АТА	TTAT	AAACT	C A	AATT'	TATC	'AT'	TGAT	GAAA	GTT'	TTGA'	TCT	TCTT	GATGT'	r	1380
118	GAG	CACA	ТТА	TCGG	CTGG	C T	TTCA	ATAA/	AT.	AATA	CAGA	GAC	GAAA'	TGA	ATAT'	TATC	A	1440
119																AATTG		1500
120	GAAG	TAAE	ГТА	ATTA	CGATO	GA G	ATGA	GTAC!	AT.	ACAT	CAAG	AAA'	TGAT'	TAA	AGGA'	TTAGA:	r	1560
121																ATTTC		1620
122																ATGTT		1680
123	TAA	AAGT	AGA	TGAA	AAATT	rr A'	TTGA'	TGAAC	AG	GATT'	TGCA	ACT	AAAG	ATA	TTGA	AAATA	r	1740
124																CACGA		1800
125				TGCT'														1847
126																		
127			(2) IN	FORM!	TIO	N FO	R SEC) ID	NO:	3:							
128			•	,					•									
129		(:	i) S	EQUE	NCE (CHAR	ACTE	RIST	cs:									
130		•	•	LEN														
131				TYP														
132				STR					•									
133				TOP														
134			` '															
135		(:	ĸi)	SEQU	ENCE	DES	CRIP	rion:	SE	O ID	NO:	3:						
136		•	•	_														
137	Asn	Phe	Leu	His	Trp	Lys	Phe	Glu	Lys	Ile	Arg	Gln	Lys	Lys	Leu	Lys		
138	1				5	-			-	10	_		•	•	15	-		
139																		
140	Trp	Lvs	Lvs	Tvr	Tvr	Tvr	Lvs	Lvs	Arq	Arq	Ser	Asp	Met	Asp	Phe	Lys		
141	-	•	-	20	-	•	-	•	25	_		•		30		-		
142																		
143	Ser	Arq	Lvs	Leu	Thr	Leu	Asn	Glu	Lvs	Lvs	Asp	Leu	Glu	Lys	Ile	Tyr		
144		,	35					40	-	•	-		45	•		•		
145																		
146	Ala	Glu	Ser	Glu	Leu	Lvs	Ala	Lvs	Lvs	Leu	Glv	Thr	Gln	Pro	Gly	Val		
147		50					55				-1	60			-4	_		
148		-					-					-						
149	Val	Leu	Glu	Met	Thr	Met	Lvs	Glu	Met	Met	Lvs	Asn	Ile	Asn	Leu	Asp		
150	65					70	4 .				75					80		
151	-										-					•		
150	17-7	3	~1	a1	ml	. 1 .	a1	~ 1	m	*	T	T	Db.	T	3 ~ ~	T		

Val Asn Glu Glu Thr Ala Gly Gln Tyr Arg Lys Leu Phe Lys Asn Lys

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153					85					90				INI	<i>PUT S</i> 95	ET: S28494.raw
154 155 156 157	Val	Glu	His	Ser 100	Lys	Ser	Asp	Asp	Leu 105	Val	Thr	Gly	Leu	Leu 110	Glu	Cys
158 159 160	Gly	Thr	Arg 115	Asn	Ser	Phe	Asp	Lys 120	Thr	Arg	Ser	Ala	Phe 125	Arg	Phe	Cys
161 162 163	Ile	Cys 130	Glu	Arg	Ile	Gln	Gln 135	Leu	Arg	Lys	Glu	Ala 140	Asp	Asn	Ala	Arg
164 165 166	145	Val	_	_		150			_		155		_			160
167 168 169		Leu			165		_	_	_	170					175	
170 171 172		Trp		180					185	_	_			190	-	_
173 174 175	-	Thr	195	_			_	200		_	_		205	-		
176 177 178	_	Asn 210					215	_				220				
179 180 181	225	Ser			_	230					235		-	-		240
182 183 184		Val Lys			245	_		_	_	250			_		255	_
185 186 187	Asp	Leu	Ser	260 Lys	Туг	His	Asp	Asn	265 Glu	Gln	Met	Asn	Tyr	270 Ile	Leu	Ser
188 189 190	Gln	Leu	275 Lys	Asp	Asn	Lys	Phe	280 Phe	Туг	Lys	Pro	Asp	285 Gly	Lys	Leu	Туг
191 192 193	Asn	290 Ser	Leu	Arg	Gln	Tyr	295 Leu	Tyr	Ile	Gln		300 Arg	Thr	Phe	Ser	Leu
194 195 196	305 Tyr	Thr	Leu	Arg	His	310 Arg	Val	Ala	Ser	Asp	315 Leu	Lys	Ala	Ser	Gly	320 Ala
197 198 199	Asp	Asp	Phe	Thr	325 Ile	Ala	Ala	Xaa	Leu	330 Gly	His	Arg	Val	Thr	335 Gln	Ser
200 201 202	Gln	Glu	Leu	340 Leu	Ara	Leu	Cvs	Ser	345 Phe	Val	Xaa	Ara	Trp	350 Tvr	Ara	Cvs
203 204 205		Trp	355		,		a "	360				J	365	-	2	-
			4													

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DATE: 09/09/98 TIME: 15:03:10

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206 370 207 208 (1)

SEQUENCE VERIFICATION REPORT PATENT APPLICATION . US/08/876,132

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